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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,826	04/13/2001	Andy Catalin Negoi	CH 000008	4307

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EXAMINER	
SHAPIRO, LEONID	
ART UNIT	**PAPER NUMBER**
2673	15

DATE MAILED: 01/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/834,826	NEGOI ET AL.	
	Examiner	Art Unit	
	Leonid Shapiro	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-13,16 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6, 8-13, 16-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3, 5-6, 8-13, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (US Patent No. 5,515,074) in view of Conover et al. (US Patent No. 6,414,664 B1).

As to claim 1, Yamamoto teaches a driver circuit for display device comprising: means for storing a basic setting of an adjustable characteristic of the driver circuit (See Fig. 1, items 11,14, in description See Col. 3, Lines 1-7); characterized in that the driver circuit includes a means for storing a correction factor to correct the basic setting of the adjustable characteristic of the driver circuit (See Fig. 1, items 11-14, 18, in description See Col. 3, Lines 1-42) and in that the driver circuit is operative to adjust the adjustable characteristic based on the base setting and the correction factor (See Fig. 1-2, items ST6,ST6A,ST7, in description See Col. 4, Lines 61-68 and Col.5, Lines 1-5).

Yamamoto does not show the driver circuit is operative to adjust the adjustable characteristic based on the combined effect of both the basic setting and the correction factor.

Conover et al. teaches the driver circuit (voltage generator) (See Fig. 2, item 270, in description See Col. 8, Lines 34-35) is operative to adjust the adjustable characteristic based on the combined effect of both the basic setting (variables 160) (See Figs. 1-2, item 160, in

description See Col. 7, Lines 28-31) and the correction factor (See Figs. 2-4, items 270, 430-460 in description See from Col. 9, Line 57 to Col. 10, Line 8 and from Col. 10, Line 57 to Col. 11, Line 11).

It would have been obvious to one of ordinary skill in the art at the time of invention to use combined effect of both basic setting and the correction factor as described by Conover et al. in the Yamamoto apparatus in order to control contrast of LCD (See Col. 4, Lines 31-32 in the Conover et al. reference).

As to claim 2, Yamamoto teaches a means for storing and accessing a correction factor to correct the basic setting of the adjustable characteristic of the driver circuit (See Fig. 1, items 11-14, 18, in description See Col. 3, Lines 1-42).

As to claim 8, Yamamoto teaches to adjust the adjustable characteristic based on the base setting and the correction factor (See Fig. 1-2, items ST6,ST6A,ST7, in description See Col. 4, Lines 61-68 and Col.5, Lines 1-5).

As to claim 9, Yamamoto teaches to adjust the adjustable characteristic based on the base setting and the correction factor (See Fig. 1-2, items ST6,ST6A,ST7, in description See Col. 4, Lines 61-68 and Col.5, Lines 1-5).

As to claim 10, Yamamoto teaches a driver circuit for display device comprising: means for storing a basic setting of an adjustable characteristic of the driver circuit (See Fig. 1, items 11,14, in description See Col. 3, Lines 1-7), a means for storing and accessing a correction factor to correct the basic setting of the adjustable characteristic of the driver circuit (See Fig. 1, items 11-14, 18, in description See Col. 3, Lines 1-42).

Yamomoto does not show means for generating a drive signal for the display device that is determined by the stored basic setting as modified by the correction factor.

Conover et al. teaches the driver circuit (voltage generator) (See Fig. 2, item 270, in description See Col. 8, Lines 34-35) is operative to adjust the adjustable characteristic based on the combined effect of both the basic setting (variables 160) (See Figs. 1-2, item 160, in description See Col. 7, Lines 28-31) and the correction factor (See Figs. 2-4, items 270, 430-460 in description See from Col. 9, Line 57 to Col. 10, Line 8 and from Col. 10, Line 57 to Col. 11, Line 11).

It would have been obvious to one of ordinary skill in the art at the time of invention to use combined effect of both basic setting and the correction factor as described by Conover et al. in the Yamamoto apparatus in order to control contrast of LCD (See Col. 4, Lines 31-32 in the Conover et al. reference).

As to claim 3, Yamamoto teaches basic setting of an adjustable driver characteristic is a PROM type (See Fig. 1, item 14, in description See Col.3, Lines 3-4).

As to claim 5, Conover et al. teaches the driver circuit (voltage generator) (See Fig. 2, item 270, in description See Col. 8, Lines 34-35) and a particular display device connected to the driver circuit, characterized in that the correction factor in the means for storing a correction factor is based on an individual property of the particular display device (See Figs. 4, items 430-460 in description See from Col. 9, Line 57 to Col. 10, Line 8 and from Col. 10, Line 57 to Col. 11, Line 11).

As to claim 6, Yamamoto teaches a method of adjusting an individual property of a display module containing a display device and a driver circuit connected to this display device

characterized in that the method including following steps determining a basic setting based on expected characteristics of the display device and characteristics of the driver circuit, storing the determined basic setting to be used by the driver circuit (See Fig. 1, items 11,14, in description See Col. 3, Lines 1-7), storing the correction factor to be used by the driver circuit (See Fig. 1, items 11-14, 18, in description See Col. 3, Lines 1-42).

Yamomoto does not show determining a correction factor to the basic setting based on the actual characteristic of the display device and the characteristics of the driver circuit when the basic setting is used and adjusting the driver circuit based upon the combination of both the stored basic setting and the stored correction factor thereby to adjust the display module.

Conover et al. teaches the driver circuit (voltage generator) (See Fig. 2, item 270, in description See Col. 8, Lines 34-35) is operative to adjust the adjustable characteristic based on the combined effect of both the basic setting (variables 160) (See Figs. 1-2, item 160, in description See Col. 7, Lines 28-31) and the correction factor (See Figs. 2-4, items 270, 430-460 in description See from Col. 9, Line 57 to Col. 10, Line 8 and from Col. 10, Line 57 to Col. 11, Line 11), and the characteristics of the driver circuit when the basic setting is used and adjusting the driver circuit based upon the combination of both the stored basic setting and the stored correction factor thereby to adjust the display module (See Figs. 1-4, items 160, 270, in description See Col. 7, Lines 28-31 and from Col. 9, Line 57 to Col. 10, Line 8 and from Col. 10, Line 57 to Col. 11, Line 11).

It would have been obvious to one of ordinary skill in the art at the time of invention to use combined effect of both basic setting and the correction factor as described by Conover et al.

in the Yamamoto apparatus in order to control contrast of LCD (See Col. 4, Lines 31-32 in the Conover et al. reference).

As to claims 11, 16 Yamamoto teaches means for deriving the correction factor by a calibration operation based on upon measurement of optical quality of the display module (See Fig. 2, items ST3-ST5, ST9, in description See from Col. 3, Line 57 to Col. 4, Line 5).

As to claim 12, Yamamoto teaches the basic setting is based upon a typical temperature dependence of a typical display device (See Fig. 2, items ST3-ST5, ST9, in description See from Col. 3, Line 57 to Col. 4, Line 5).

As to claim 13, Yamamoto teaches the correction factor is based on a particular model of display devices, all of which are then operable with the driver circuit and without adjustment of the contrast of the display device by the user (See Fig. 2, items ST3-ST5, ST9, in description See from Col. 3, Line 57 to Col. 4, Line 5).

As to claim 17, Yamamoto teaches deriving an output signal of the driver circuit based upon both stored basic setting and the stored correction factor (See Figs. 1-4, items 160, 270, in description See Col. 7, Lines 28-31 and from Col. 9, Line 57 to Col. 10, Line 8 and from Col. 10, Line 57 to Col. 11, Line 11).

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto and Conover et al. as aforementioned in claim 1 in view of Inoue (US Patent No. 5,517,212).

Yamamoto and Conover et al. do not teach the correction factor has a substantially smaller adjustment range than the basic setting of the adjustable characteristic of the driver circuit.

Inoue teaches the correction factor has a substantially smaller adjustment range than the basic setting of the adjustable characteristic of the driver circuit, with range of adjustment of 2V with reference of peak voltage 20V (See Fig. 2-3, items 13, Vlcd, in description see Col. 4, Lines 39-44).

It would have been obvious to one of ordinary skill in the art at the time of invention to use range of adjustment in relation to peak voltage as described by Inoue in the Yamamoto and Conover et al. apparatus in order to increase flexibility of adjustment circuit (See Col.2, Lines 19-20 in Inoue reference).

Response to Arguments

3. Applicant's arguments filed 11-20-03 have been fully considered but they are not persuasive.

On page 8, 1st paragraph in relation to claim 1, the applicant stated that Conover does not provide a stored correction factor for adjusting the stored basic sets of adjustable characteristic of a driver circuit. However, in Conover reference the actual adjustment of the contrast is accomplished by accessing different voltage look-up tables (correction factor) in LCD drive voltage generator (item 270 in Fig. 2) , which are predetermined or generated in advance for each desired contrast setting (See Col. 9, Lines 57-59).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Telephone inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

ls

VIJAY SHANKAR
PRIMARY EXAMINER